REMARKS

INTRODUCTION:

In accordance with the foregoing, no claims have been canceled, no claims have been amended, and no claims have been added. No new matter is being presented, and approval and entry are respectfully requested.

Claims 1-25 are pending and under consideration. Reconsideration is respectfully requested.

REJECTION UNDER 35 U.S.C. §102:

At page 2 of the Office Action, claims 1-25 were rejected under 35 U.S.C. §102(e) in view of U.S. Patent Application Publication No. 2003/0163286 by Yasugi. This rejection is traversed and reconsideration is requested. The Applicants respectfully submit that the traversal of this rejection should not be construed as an admission that Yasugi is prior art.

Claim 1 Patentably Distinguishes Over Yasugi

Regarding claim 1, the Applicants respectfully traverse the rejection because, in at least two respects, Yasugi fails to disclose the following recited features:

> means for obtaining at least one of three cutting load data by said cutting load detecting means, including a cutting time, an area of a cutting load waveform during cutting, and a maximum absolute value of a slope of a drop in a cutting load during the cutting, in a machining cycle, as a load state value in a current machining cycle;
>
> means for updating and obtaining a moving variable threshold based on the load state value calculated in a machining cycle before the current machining cycle; and
>
> means for comparing the load state value in the current machining cycle with the moving variable threshold to determine an abnormal condition of the tool.

First, each of these features recites a load state value. As recited, the load state value includes "at least one of three cutting load data [obtained by] cutting load detecting means, including a cutting time, an area of a cutting load waveform during cutting, and a maximum absolute value of a slope of a drop in a cutting load during cutting. On the contrary, Yasugi mentions that "a cutting load exerted on a spindle motor and/or at least one of feed axes motors

is monitored on the basis of an average or a maximum.... or on the basis of a waveform pattern." *Yasugi,* paragraph 12. The Applicants respectfully submit that neither a cutting load exerted on a spindle motor, a cutting load exerted on a feed axes motor, nor a waveform pattern equate to any one of cutting time, an area of a cutting load waveform during cutting, or a maximum absolute value of a slope of a drop in a cutting load during cutting. Thus, the load state value as recited is not suggested by Yasugi.

Second, the above features recite a load state value of "a current machining cycle." On the contrary, Yasugi discusses "a presumed present load" or an "estimated present load." *Yusugi,* paragraphs 15 and 40. The Applicants respectfully submit that a presumed or estimated load is not a load state value of "a current machining cycle."

In at least these two respects, the applicants respectfully submit that neither means for obtaining at least one of three cutting load data, means for updating and obtaining a moving variable threshold, nor means for comparing the load state value are suggested by Yasugi. Thus, withdrawal of the §102(e) rejection is respectfully requested.

Claims 2-3 and 7-14 Depend From A Patentably Distinct Claim

Regarding claims 2-3 and 7-14, these claims are dependent on independent claim 1, and are therefore believed to be allowable for at least the reasons noted above.

Claims 4 and 25 Patentably Distinguish Over Yasugi

Regarding claims 4 and 25, these claims recite features similar to claim 1, and are considered allowable for at least the same two reasons discussed above (Yasugi not suggesting a current load state value as recited). Thus, withdrawal of the §102(e) rejection is respectfully requested.

Claims 5-6, 15-22 and 24 Depend From A Patentably Distinct Claim

Regarding claims 5-6, 15-22 and 24, these claims are dependent, directly or indirectly, on independent claim 4, and are therefore believed to be allowable for at least the reasons noted above.

Claim 23 Patentably Distinguishes Over Yasugi

Regarding claim 23, the Applicants respectfully traverse the rejection because Yasugi fails to disclose the following recited features:

> obtaining a load state value during a current machining cycle;
>
> ..., and
>
> comparing the load state value in the current machining cycle with the moving variable threshold to determine a condition of the tool.

As discussed above, Yasugi mentions a presumed or an estimated present load and not a load state value during a current machining cycle. Accordingly, the Applicants respectfully submit that Yasugi fails to suggest the obtaining and comparing operations as recited. Thus withdrawal of the §102(e) rejection is respectfully requested.

REJECTION UNDER 35 U.S.C. §103 NOT APPLICABLE:

Yasugi Does Not Preclude Patentability Under 35 U.S.C. §103(c)

As discussed above, Yasugi does not suggest all of the features of the claims. Further, the subject matter of Yasugi and the present claimed invention were, at the time the claimed invention was made, owned by the same person or subject to an obligation of assignment to the same person. Accordingly, Yasugi may not be used to preclude patentability under 35 U.S.C. §103. *35 U.S.C. §103(c).*

CONCLUSION:

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot. And further, that all pending claims patentably distinguish over the prior art. Thus, there being no further outstanding objections or rejections, the application is submitted as being in condition for allowance which action is earnestly solicited.

If the Examiner has any remaining issues to be addressed, it is believed that prosecution can be expedited by the Examiner contacting the undersigned attorney for a telephone interview to discuss resolution of such issues.

If there are any underpayments or overpayments of fees associated with the filing of this Amendment, please charge and/or credit the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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